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ORIGINAL ARTICLES.

BLEPHARITIS MARGINALIS.*

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ONE of the commonest forms of blepharitis marginalis, seen in persons of every rank and station in life, and of all ages, is that in which there is slight thickening of the borders of the lids. The anterior margins are dry and red, and the lash, on close inspection, is observed to be thin, whilst the cuticle between the hairs is covered with minute scales of desquamating epidermis. This condition seems aggravated by constipated bowels, by the loss of sleep, and by fatigue of any kind. For convenience I will designate this class A. Cases of this kind are frequently observed to almost entirely disappear under correction of errors of refraction, of intestinal constipation, and of any form of mal-nutrition, or debility; whilst, on the recurrence of any of these abnormal conditions, or the use of the ametropic eyes without glasses, the local affection in the margin of the lids reappears. This is a condition that seems to be least susceptible to the action of any of the mercurial ointments. In fact, the fungus present in the hair follicles seems incapable of producing much thickening and excoriation until some hyperæmia is set up, then the blepharitis takes on active symptoms. In cases seemingly cured by correcting errors of refraction, etc., close inspection will disclose a small, sheath-like elevation of epidermis around

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each hair in the lash. I believe the fungus in the follicles in such cases may be entirely eradicated, and permanent recovery secured for many of them, by the periodical application of pure carbolic acid. I apply it with a needle, first preparing the acid by adding about ten minims of alcohol to the drachm of crystalized acid, and agitating sufficiently to dissolve all crystals. This will usually remain in liquid form as long as it is kept in a well-stopped vessel. Into this fluid I dip the point of the needle, and, holding the lid firmly with the fingers of the other hand, I scrape off all the detachable scales between the lash, making the application as nearly direct and complete to all the hair follicles of the margin of the lid as possible. By repeatedly dipping the needle into the acid, and scraping the skin, taking care that none shall be allowed to run over the free border, the application can be made so thorough and complete as to whiten all that portion of the skin containing the lash. This creates a little temporary smarting, which is not severe, and which lasts not more than two or three minutes. About the fifth day after each of these treatments a crust of epidermis exfoliates, and should be removed, and a little yellow oxide of mercury ointment applied. The application of the carbolic acid should be repeated about once in ten days, in ordinary cases. In the course of about three months, it will be observed in most cases, especially in young persons, that a heavy and luxurious growth of lash has come on, and with it entire disappearance of all the manifestations of blepharitis. I have observed that most of these cases seem permanently cured, after a lapse of five or ten years.

As an illustration of the intractable nature of this disease, I invite attention to the case of Miss D., aged 13, who came to me August 22, 1899. The margins of the lids of both eyes were slightly thicker than normal. On close inspection it was observed that the anterior margins were covered with fine scales of desquamating epidermis. There were no signs of hair where the lash should be in either of the upper lids, and but a few fine, short hairs along the margins of the lower lids, and these were scattered at long intervals. She had for two years been under the constant treatment of eminent specialists, and had been told by one of my ablest confreres that she would never again have any lash. The family were

anxious, and I felt the necessity of being cautious about making a prognosis. I asked for two weeks time in which to form an opinion as to the probability of a re-growth of lash. I applied the phenol in the manner described, to the right upper and lower lids. She was unwilling to have the application made to the other eye at this time, so we had to wait; meantime using the yellow oxide of mercury ointment to the left eye, with friction, once every day. August 25th the crust exfoliated from the lids of the right eye, and the yellow oxide or mercury was applied, with friction, with the edge of a Daviel spoon. At the end of a week from the date of the first treatment a magnifying glass disclosed evidences of the return of a few lashes, and I made an encouraging prognosis as to the right eye. The left, which showed no signs of improvement, was then subjected to similar treatment.

During the fall I was permitted to apply one more treatment of this kind to each eye, and before Christmas she had a good growth of rather heavy lashes, with almost total disappearance of the itching of the lids and roughness of cuticle, which had greatly annoyed her for months before she came to me.

In the spring of 1890 I did not see her. About the first of June the lash suddenly fell out. She returned, and at intervals during the summer of 1900 she received treatment with the phenol, and soon enjoyed a luxurious growth of lash, which was the envy of all the girls in her school.

In September, 1901, it was thought the upper lash looked thin, so I applied the phenol to both eyes. The lash became more luxuriant, and no further trouble came until September, 1902, when, the patient having gone to Cincinnati to live, wrote me her lashes had again fallen out. I referred her to Dr. Derrick T. Vail, and do not know how she is since.

(B.) The cases which present an excoriated, glazed, red, rounded appearance of the tarsal margin, with no sign of lash, are seldom seen with both eyes affected to the same degree. It often happens that one eye may be placed in class A, whilst the other presents an aggravated condition, with a tendency to fissure at the external canthus. Constitutional disturbances and errors of refraction are alike provocative of aggravated symptoms in these cases. I have never observed much relief from

local treatment with ointments; and, for that matter, nothing approximating curative results from any sort of treatment, excepting the phenol, applied as described in class A. I have frequently observed, where the lid is very greatly thickened, the margin rounded off, and of a bright red, glazed appearance, absolutely free from any sign of lash, after two or three applications of the phenol, at intervals of ten days, great reduction in the thickening of the lid is secured, and a fair growth of lash begins to appear; and, by the continued prosecution of this plan of treatment, with constitutional correctives, absolutely complete recovery occurs in many persons under forty years of age. It is especially efficacious in children, who are always averse to systematic rules for applying ointments.

(C.) Another class of cases is that in which an abundant accumulation of inspissated sebum mats the lash together in groups. When the crust is removed it is usual for most of the hairs of the lash to come away with it, disclosing an ulcerated condition of the lid, which destroys the hair follicles. This condition is sometimes associated with great thickening of the margin of the lid, and dilated veins are often seen coursing over the surface of the lid, just under the skin. On everting the lid, a relaxed and flabby condition of the retro-tarsal conjunctiva appears. There is profuse laceration, and sometimes photophobia. The crust is best removed, after an application of simple petrolatum, with a cotton mop, made by rolling a bit of cotton on the end of a probe, and dipping it into the ointment, and smearing the lids in contact with the upper boundary of the lash. After a little rubbing with this mop, the crust becomes loosened at the upper edge and may be lifted off with the dressing forceps, or turned out with the end of a small probe. The ulcer, which is sometimes deep and of a conical form, should now be cleansed by pressing into it a clean cotton mop; and, after removing all the moisture, a small portion of phenol should be applied to the bottom of the ulcer. Keeping the lid separated to prevent any flow of tears carrying the phenol between the lids, it will soon be observed that the whitening produced by the phenol has disappeared by becoming incorporated with the tissues. The patient may now have a piece of gauze, smeared with

petrolatum, laid over the closed lids, and a bit of cotton wool on the outside of the gauze, secured with a few strips of plaster, laid from the cheek to the forehead. This dressing should not be disturbed for twenty-four hours, when the treatment may be repeated, if necessary, as at first, excepting that it will be observed no crust has reappeared in the lash, and therefore no preliminary treatment is required. The ulcer, however, should be carefully dried and again treated to an application of the phenol. In some cases a single treatment will be found sufficient to cure the ulceration. By this plan of treatment some of the worst cases may be entirely cured within ten days. Always bear in mind, however, the necessity for close attention to constitutional correctives.

There are many cases of ulcerative blepharitis marginalis that are undoubtedly due to inherited syphilis, and no plan of local treatment, unassociated with constitutional measures, will be found availing. The syrup of hydriodic acid is a priceless remedy in such cases, and may be given with the food to children of all ages, without risk of disturbing the gastro-intestinal system.

It should not be forgotten that most of the ulcers in this class of cases are broken-down gummatous formations. It is sometimes seen in the ciliary margin of the lids, and sometimes in the meibomian margin. In this class of cases the ulcer should be thoroughly dried, and the ulcer filled with a portion of yellow oxide of mercury powder, or a crystal of the red oxide.

There are cases, however, in which a minute pustule occupies a single hair follicle, or several contiguous follicles, but these cases are so distinct in appearance and so easily recognized by the unaided eye, as to make the diagnosis certain. It is often seen that a single hair is surrounded by a yellowish white opaque substance, which, when the hair is pulled out, is found adhering to it. Fortunately, this infectious folliculitis of the ciliary margin of the eyelid is not very common, as it invariably destroys the hair bulb in each infected follicle. Bathing the eye in a solution of chloride of sodium, fifteen grains to the ounce of water, quickly terminates this infection.

There are many complicated forms of ulcerated blepharitis marginalis, each of which require distinct modifications of

local treatment, and so I do not wish to be understood as claiming that the local application of phenol is to be indiscriminatingly made. It is certain it could not suffice in cases of tarso-adenitis; nor in those cases where the cicatricial contractions from previous ulceration may have obliterated the hair follicles. It would be useless in mal-position of the puncta lacrimalia, nor would it be found sufficient in cases complicated with phlyctenular disease.

The condition in which alopecia is present, without ulceration or apparent desquamating conditions, or which may be due to parasitic or microphitic causes, in persons who have neither syphilis nor leprosy, the application of phenol often produces brilliant results. I have never seen hair restored in a case of palpebral alopecia, the subject of general alopecia. In syphilitic subjects, where the hair has fallen from the brow, eyelids and head, all efforts at restoring it to the lids by local applications have failed in my hands, nor have I seen the lash reappear in syphilitic cases under any form of constitutional treatment.

Not attempting to exhaust the subject, I have endeavored to portray a few well-known conditions wherein the modifications of local treatment I have suggested seem more advantageous than the methods hitherto employed or commended by our standard authors.

DISCUSSION.

DR. VAIL.—Since my name has been mentioned in Dr. Reynolds' interesting paper, I shall report concerning the case referred to and which Dr. Reynolds kindly sent to me. The girl came in, presenting a letter of introduction. I saw the lashes had fallen from the left eye. At a glance there seemed to be no inflammation at all, but on close inspection I recognized there was some exfoliation of the epithelium, and on drawing out one or two of the few remaining hairs, I found the characteristic black-rooted and club-shaped appearance we have all seen in diseased lashes. I sterilized the margin of the lid with H_2O_2 and applied 20 per cent. silver nitrate by means of a cotton tipped probe. The lashes promptly returned. At this time the young lady has the beautiful drooping lashes described by the writers of novels. The healthy appearance remains to the present day.

I have been able to recognize clinically several different types of blepharitis, all of which are manifested in both the acute and chronic forms: (1) simple, (2) pustular, (3) eczematous, (4) membranous (which is exceedingly violent; I have seen a membrane like diphtheria in the lashes, in most cases failed to find the germ, although in one case I did find the Klebs-Loeffler bacillus), (5) deciduous (to which the case reported by Dr. Reynolds belongs), (6) ulcerated, (7) tineal (Lousey). The same remedies cannot be used successfully in all cases.

DR. SUKER.—I wish to find fault with the term "marginal blepharitis." The name "blepharitis eczematosa" would cover the ground more fully. The loss of the lashes and thickening of the tarsus are secondary considerations. I am glad the author said not every case is due to refractive error, as we almost had to believe according to Roosa (1876), although I think many cases are hypermetropic. I am in the habit of using silver nitrate, 20 to 30 per cent., the same as the author uses the phenol, and with good results. The removal of the little coverings along the lashes, upon which the doctor laid stress, is a good point, though often neglected. In some cases ichthyol ointment acts admirably.

DR. HECKEL.—It seems to me we might eliminate the word "marginalis" altogether. The word "blepharitis" means an inflammation of the *lid*, but by common consent and usage it is limited to an inflammation at the margin of the lid, hence the modifying adjective "marginalis" is entirely superfluous. I think Dr. Suker misquoted himself when he said that he uses silver nitrate in a solution from 20 to 30 per cent. Did he not mean 20 to 30 grains to the ounce?

DR. ALT.—I am in the habit of using corrosive sublimate in the same way as Dr. Reynolds uses the phenol, and am very much pleased with the results. Having cleansed and treated the lid margins with the bichloride of mercury, I apply an ointment for protection.

DR. HOTZ.—I fully agree with Dr. Reynolds that the use of ointments in the ulcerative forms is useless. In that form the application of nitrate of silver 10 to 20 per cent. or more, or carbolic acid as described, gives the best results. I was surprised to hear such a poor opinion about the efficacy

of ointment in that mild form, so-called squamous blepharitis. I found the careful use of ointment of yellow oxide of mercury or ointment of ichthyol and vaseline bring good results, if properly applied. The patient cannot do it himself. The ointment in the hands of the patient will never relieve his trouble, because it is impossible for him to make the application properly along the upper lid margin. It would be very difficult for me to do it myself to my own eye. You must instruct some one in the proper application of the ointment to the patient's eye. In the case of children, show the mother; if adults, show some other person, or have them come to you and do it yourself. I have made the experiment so frequently that I am satisfied it is the way the ointments are applied that makes the difference in the results. I have had them come back in a week or two without change in the condition, and then I applied it myself twice, perhaps, and there was such a manifest change in the condition that the patient himself expressed relief.

DR. J. W. MURPHY, Cincinnati.—I think Dr. Heckel is wrong when he says it should be 20 to 30 grains of nitrate of silver to the ounce, in these cases. I use 20 to 30 per cent. silver. It is necessary to use this strong solution; after carefully cleansing the lid margin, with its use you thoroughly destroy the ulcer, and a healthy result goes forward. With the weaker solutions, 4 or 5 per cent., you will not have success.

DR. DAYTON.—I have a case in mind that might possibly account for the loss of those beautiful lashes. A girl of about the same age as Dr. Reynolds' case presented herself for treatment. I made a snap-shot diagnosis of blepharitis marginalis, but inasmuch as there was no perceptible inflammation present along the margin and no ulcers, I made an examination and found no disease of any of the follicles so far as I could see. I gave the yellow ointment with a very small amount of citrine ointment with it. She reported in a few days with no different appearance. I found on close questioning that she was apt to pull out hairs occasionally. I had her watched carefully for some time and not allowed to sleep by herself or be alone at all, and soon she had a very fine growth of lashes. She went on a visit away from home,

but this visit was brought to an abrupt termination because of the renewed loss of the lashes. She was again put under surveillance, without treatment, and the result was a return of the lashes. One day I took her privately and gave her a very good talking to, and she confessed to me that she had pulled out her lashes. It was a hysterical manifestation at the age of puberty and she had deliberately plucked every lash as it appeared in the upper lid. Perhaps the author's case is of the same character.

DR. VAIL.—This matter of an hysterical element was thoroughly gone over in the case reported. I sent for the mother, as I suspected hysteria, and explained to her in a kind way that it was possible that this young girl—who did not seem to be hysterical but unusually sensible about everything—might possibly be pulling out her lashes, and requested that she watch her closely. She never lost sight of her for a week and came back with the patient, declaring that there had been absolutely no interference. The lashes simply came away without any resistance and with none of the evidence of pain a patient gives when you draw a healthy lash. I am certain that this is not an hysterical case. I have met such cases, but do not believe this is one.

DR. M. D. STEVENSON, Akron, O.—When the borders of the lids are diseased it is necessary first to cleanse them thoroughly, removing all crusts and scales when present in order to learn their exact condition. Frequently the cleansed lids are found to be merely reddened (a vascular condition usually due to asthenopia) and not truly inflamed, the crusts and scales being the result of hypersecretion of the local glands and desquamation of epithelial cells. Many lids are found to be truly inflamed and some to have little pustules at the roots of the lashes involving the sebaceous glands. These particular lashes should be epilated and the ulcers touched with a 20 to 30 per cent. silver nitrate solution. A mild, clean ointment kept in collapsible tubes, applied by a clean finger to the cleansed lids, is of great service, softening and at the same time facilitating the removal of the scales and crusts, keeping the orifices of the local glands patent and protecting the skin from the tears. Too often ointments are prescribed in common jars, allowing them to become dirty and rancid,

and the patient is not sufficiently impressed with the need of cleanliness in their application. A dirty, rancid ointment applied by foul fingers to unclean lids, is more productive of harm than good.

DR. REYNOLDS (closing discussion).—I am thankful for the discussion the gentlemen have bestowed upon my feeble effort. As to the classification, I confess it was not meant to be scientific, but rather commonplace and clinical.

As to the possibilities of hysteria in the case I referred to Dr. Vail, I used the magnifying glass in the inspection of the ciliary margin of the lid, and finding no young lashes present, as would be the case had they been pulled out by force, I eliminated in that way the possibility of hysteria as an ætiological element. If the lash is plucked out with the finger nails, it is impossible to get all the young hairs. It is not possible for the patient to grasp them with the nails. The lid was absolutely bare, in this case, a complete madarosis.

As to the nitrate of silver, bichloride of mercury or any other form of caustic, I can conceive of no material difference in the result. The difference is simply as to preference on account of pain in the one case and its absence in the other. While the chemist may tell you that a little alcohol destroys carbolic acid, mixed as I mix it, it answers every purpose. I should hate very much to swallow alcohol containing carbolic acid in solution under the impression it had been destroyed. It is like a good many other things that chemistry teaches us—it may be hypothetically true, but in fact it is not true.

As for the treatment of any form of blepharitis with ointments, I fully concur with the gentleman who says it is necessary for the surgeon to apply them. The mother of this young lady was trained how to apply the ointment by means of a bit of cotton rolled on a stiff wire. As to the use of the solutions of nitrate of silver, I see difficulty in preventing this running over the border of the lid. The carbolic acid can be applied to a restricted area without risk of spreading. The pain it produces is very light and transitory, whilst silver and mercury produce burning pain which persists for an hour or more.

A SERIES OF GLAUCOMA CASES.*

By DR. GEORGE F. FISKE.

CHICAGO, ILL.

No.	Name	Sex	Age	Eye	Refraction	Diagnosis and Operation.	Result.
1	A. G.....	M	49	O. U.	+2 D.sph	Iridectomy O. U.	V= ²⁰ / ₃₀ , no recurrence.
2	Mrs. L. C.....	F	55	O. S.		Traumatic glaucoma; Evisceratio bulbi	Right eye remains normal.
3	Mr. W.....	M	48	O. U.	+3 D.	Irid. O. U.	No recurrence.
4	H. B.....	M	41	O. D.	Em.	O. D. acute glaucoma, iridectomy	V= ²⁰ / ₂₀ , no recurrence.
5	Mrs. M. A. Mc	F	76	O. U.	Hyp. ast.	O. U. glaucoma simplex, O. U. Irid.	No recurrence.
6	Mrs. M. R.....	F	70	O. D.	?	O. D. hæm. glau. irid. and evis. bulbi	Left eye remains normal.
7	Mrs. E. F.....	F		O. D.	+4 D.	Glau. acute irid.	No recurrence.
8	A. J. B.....	M	43	O. D.		Glau. chron. irid. 3 times and evis.	O. S. remains normal.
9	A. S.....	M	60	O. D.		Glau. simplex chron. irid., later evis.	O. S. remains normal.
10	Mrs. M. S.....	F		O. U.	+150	Glau. chron. irid. O. U.	O. D. ²⁰ / ₆₀ , no recurrence.
11	Mrs. M. W.....	F		O. U.		Glau. chron. O. U. irid.	Fingers at 2-4 feet.
12	Mrs. G. W.....	F	47	O. S.	+250 D.	Glau. chron. irid. O. S.	O. D. remains normal.
13	Mrs. W. G.....	F	60	O. U.	+150 D.	Glau. chron. O. U. irid.	O. S. V. = ⁴ / ₃₀ .
14	Mrs. B.....	M		O. D.		Glau. chron. irid. O. D.	O. S. remains normal.
15	Mrs. W. J. W.	F	34	O. U.		Glau. chron. O. D. evis. O. S. irid.	O. S. fingers at 1-2 feet.
16	A. D.....	M		O. S.	+150 D.	Glau. acute O. S. irid.	Right eye normal, O. S. ⁵ / ₆ , no recurrence.
17	W. C. P.....	M	58	O. D.	Hyp.	Glau. chron. O. D. irid.	O. S. normal.
18	Mrs. D.....	F	60	O. U.		Glau. acute O. U. irid.	No recurrence, V. = ²⁰ / ₄₀ .
19	Mrs. E. P. B.	F	63	O. D.	+450	Glau. chron. O. D. irid.	O. S. remains normal.
20	J. F. W.....	M		O. D.	Em.	Glau. acute O. D. irid.	V. = ²⁰ / ₃₀ , No recurrence.
21	Mrs. L. Mc.	F	73	O. D.		Glau. chron. irid. by Dr. Knapp.	Eye blind, no recurrence.
22	B. C. D.....	M	39	O. U.	+450 D.	Glau. sub acute O. U. irid.	V. = ⁵ / ₆ , no recurrence.
23	Miss M. K.....	F	30	O. D.	+1 D.	Glau. chron. O. D. irid.	No vision, O. S. remains normal.
24	Mrs. J. T.....	F	42	O. D.	+1 D.	Glau. chron. O. D. irid. twice.	O. D. no vision. O. S. Irid. advised.

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No.	Name	Sex	Age	Eye	Refraction	Diagnosis and Operation	Result
25	W. M. E.....	M	60	O. S.	+1 D. cyl	O. S. Glau. acute irid. O. D. Glau. acute O. D. irid. 4 yrs. later.....	O. S. V.= ⁵ / ₆ . O. D. V.= ²⁰ / ₄₀ .
26	D. J. H.....	M	60	O. S.		Glau. acute O. S. irid.	No recurrence O. S., O. D. blind years ago following Gl.
27	H. A. O.....	M	53	O. S.	+1 D.	Glau. subacute O. S. irid.	V.= ⁵ / ₁₀ , operation advised, O. D. later.
28	Mrs. H. B. A.	F	66	O. S.	+2 D.	Glau. simplex irid.	No recurrence V.= ²⁰ / ₁₂₀ .
29	J. H. W.....	M	58	O. S.	+150 D.	Glau. hæm. irid. and evis.	O. D. remains normal.
30	Mrs. J. H. E.	F	30	O. S.		Glau. acute slight attack, no operation	Eye normal.
31	W. H. J.....	M	39	O. U.	+1 D.	O. D. glau. acute O. S. glau. chron. O. U. irid.	O. D. V.= ⁵ / ₅ . O. S. V.= ²⁰ / ₈₀ .
32	Mrs. L. B....	F	66	O. S.		Glau. chron. O. S. irid.	No central vision O. D. remains normal.
33	R. P. F.....	M	58	O. U.	Hyp.	Glau. acute O. U. irid.	V.= ²⁰ / ₈₀ , no recurrence.
34	J. B.....	M	62	O. D.		Glau. acute irid.	V.= ²⁰ / ₄₀ .
35	N. S. H.....	M				Glau. chron. irid.	O. U. blind, evis. may be necessary.

THESE thirty-six cases have been collated for the sake of making a few deductions, more or less authorized, and bringing up for discussion some practical questions connected with this disease, which is certainly to be dreaded by all of us.

As I understand it, the aetiology of glaucoma is still, after a great amount of research and discussion, by no means satisfactorily settled. It is perhaps fair to say that the symptoms can be best explained as due to an increase of tension, in its turn due to difficulty of excretion as compared with secretion. This being granted, the point to determine is the cause of this difficulty of excretion. In these cases of mine, there is not a single one of glaucoma in a myopic eye, and almost all the eyes are hyperopic. This corresponds with observations of other ophthalmologists, and careful measurements made by other observers all point to the small eye as being the one peculiarly liable to the disease. It seems to me, then, that the best explanation is that of Weber and Priestly Smith, which attributes the difficulty of excretion to the small eye and lens of normal size, that is, large in proportion.

In these eyes the ciliary body is enlarged and the flow of the lymph from the vitreous into the posterior chamber is hindered. When the veins of the ciliary body become too full, the swelling cuts off communication between the vitreous and the posterior chamber and the ciliary body is pushed forward and presses the root of the iris against the sclera at the point of union with the cornea.

This question of the aetiology I have gone into at some length because it brings us logically to the question of what to do in glaucoma, and I believe in and wish to advocate the early iridectomy in all cases of glaucoma; this iridectomy to be followed by a second and third, if necessary, immediately the symptoms return.

It may seem an apology is due you for bringing up an old matter, and you may say, "We all of us believe in and practice iridectomy for our glaucoma cases."² My experience has been, however, that many of our best ophthalmologists resort to massage, and eserine, and heat, and procrastination with their patients in the early stages, at the time of the first attack; and it is right here that the operation is most useful and most likely to conserve the sight.

Then comes the question as to the operation upon the second eye. As we all know, in the majority of cases the second eye is sooner or later affected by the disease. I remember hearing a brilliant paper on this subject where it was advised that an iridectomy should be performed upon the second eye, even when sound and when no symptoms of the disease had presented themselves. Personally I believe that it is quite demonstrable that such a course would save many from blindness, though I doubt if any of you will here advocate such a procedure, and this is one of the questions I wish to bring up for discussion to-day—and for earnest discussion, recognizing the fact of the danger of an iridectomy injuring a sound eye, and on the other hand not forgetting the cases where an iridectomy should have been performed at the time of the first, or one of the earlier attacks, and where it has been put off by patient, or surgeon, or both, and the sight has been lost.

In looking over the cases in this paper there is one where there was an acute attack in one eye, which was slight, and

where no operation was performed, and where up to this winter there has been no recurrence.

In this list there are sixteen cases where up to the present time the second eye has not been affected. There have been five eyes where evisceration has been necessary, and there are two more eyes where it may be necessary later. All these seven eyes were affected with the disease for some time before iridectomy was performed. The experience in these cases was that sight was preserved and the disease checked just in proportion as the iridectomy was early.

In operating I used a cataract knife and make a large incision just beyond the edge of the cornea, not trying to go far into the sclera. Then I remove a large section of the iris and reach its root so far as possible. I use a two per cent. solution of eserine after the operation and prepare for the operation by the use of eserine and hot compresses if the tension is great, and use bichloride 1 to 5,000 as antiseptic.

CASE 4. H. B., age 41, seen Sept. 12, 1887, with typical case of acute glaucoma, marked by vomiting, very high tension, great pain. Entire absence of vision in the right eye and grey cornea. Iridectomy September 14th without hæmorrhage under ether, and eye treated with eserine and hot fomentations. The pain persisted and iris seemed sluggish, the conjunctiva remaining bloodshot, with no tension. A two per cent. solution of atropine was used twice a day, under which treatment the eye improved with great rapidity.

Sept. 24. V. = $\frac{20}{20}$.

Jan., 1889. V. = $\frac{20}{20}$.

No recurrence in either eye.

5. Mrs. M. A. Mc., age 76. Seen first March 5, 1889. Diagnosis: glaucoma simplex of a year's standing in right eye. Uncertain in left, but failure in vision marked within last few weeks. Diagnosis corroborated by three other oculists, two of whom advised against operation, while one agreed with me that the operation afforded the only chance.

V. O. D. +1 D. sph. \bigcirc +1.50 D. cyl. $180^{\circ} \frac{10}{200}$.

O. S. +1.50 D. cyl. $180^{\circ} \frac{20}{80}$.

O. U. Incipient cataract. Excavation marked.

Field characteristic, no pain or tension. O. U. iridectomy downward March 9, 1889.

May 20. V $\ominus + 2$ D. cyl. $180^\circ \frac{5}{6}$. O. D. fingers at 5 ft.

Dec. 2. O. S.—0. 75 D. sph. $\ominus + 1.50$ D. cyl. $180^\circ \frac{5}{6}$.

Later the vision failed slowly in the right eye and remained in statu quo in the left eye. June 6, 1893, O. S.—2 D. cyl. $75^\circ \frac{5}{6}$. The patient died soon afterward, able to read up to the time of death. This case is dwelt upon at length, because it was very unfavorable with regard to prognosis, in the absence of acute symptoms.

6. Mrs. M. R. B., age 70. Seen July 6, 1889. O. D. acute attack of glaucoma supervening upon an old case dating back years. Great pain. T + 2. Anterior chamber shallow. Pupil dilated, immovable. Fingers not counted. July 8 iridectomy, followed during the night by hæmorrhage and pain. July 17, evisceratio bulbi. The refraction of the left eye was —0. 50 D. sph. $\ominus - 1$ D. cyl. $90^\circ \frac{5}{6}$, and the sight has remained good up to the present date. The refraction of the right eye could not be determined.

No. 8. Mr. A. J. B., age 43. Seen May 1, 1890. O. D. vision = fingers at 2 ft. Shows typical glaucoma excavation. Was operated upon twice several years before, iridectomies, though vision had disappeared previous to these operations, as he had been treated for a year with pills. No. 1 and 3, taken twice a day upon advice of a homoeopathic oculist. O. S. V. $\ominus - 1$ D. cyl. $88^\circ \frac{5}{6}$. In 1893 I eviscerated the right eye because of the unbearable pain. Left eye is in good condition today.

No. 36. Mr. K., age about 32. Suffered from acute glaucoma in both eyes. Iridectomy performed in Halle several times on each eye, so that almost the whole iris was removed. Sclerotomy was also performed twice. This was one of the most remarkable cases I have ever seen, because of the persistent return of the glaucoma and because of its eventual yielding to repeated operations. I saw the patient first in 1883 in Prof. Alfred Graefe's private clinic in Halle, and last in my office in Chicago in 1894 or 5, at which time the sight was very good in both eyes and there had been no symptoms of glaucoma for years.

No. 35. Mr. N. S. H., age 40. O. N. Blind for past three weeks, due to glaucoma of two to three years' standing. This man had never consulted an oculist, believing that the

failing sight was due to his chronic kidney disease. O. U. T+2. Iridectomy to relieve the intense pain. No vision of course resulted, and while the pain is now absent, after a lapse of three months, it is very possible that the eyes may have to be enucleated later.

DISCUSSION.

DR. W. K. ROGERS, Columbus, O.—This subject can scarcely fail to be of the most intense interest to all of us, and I am sure no apology is called for in behalf of a paper on this subject, in connection with which so much has been written and done, and concerning which the views of many observers have undergone considerable change in the past few years. The point of principal interest to me in the paper is the allusion to operative interference in cases of a chronic character, and I presume the doctor refers to the simple, non-irritative variety of glaucoma under this head. I believe there is a growing tendency to resort to iridectomy in these cases, as compared with the past, and I would like to add my small modicum of experience. I have operated on seven of these cases, covering a period of ten years, and I have not had cause to regret this procedure in more than one instance, and even in that it is fair to assume the difficulties experienced might have been encountered even without the operation. In this case the patient was a woman upwards of 65 years of age, with marked atheromatous condition of the vessels. It was necessary to use a general anæsthetic, and the patient developed an attack of emphysema with paroxysms of coughing, which resulted in intra-ocular hæmorrhages. She eventually made a fair recovery. One eye retains vision practically equal to that before the operation, and the other eye suffered a diminution of about two-thirds. This was some seven years ago, and up to the present time there has been no increase in the impairment of vision and no exacerbation of the glaucomatous symptoms, whereas before operation vision was progressively deteriorating.

DR. W. H. WILDER, Chicago.—I want to compliment Dr. Fiske on his excellent report of cases. It is certainly a most important subject and one, it seems to me, which can not be covered as thoroughly as it should be in the time at our disposal. I think very few of us doubt the efficacy of

iridectomy in the acute or even the chronic forms of glaucoma where there are acute attacks. As to the pathology, I do not see how the theory of Weber and Knies holds good when the anterior chamber is deeper than normal. In such cases I prefer the anterior sclerotomy or the posterior sclerotomy. I had a case with brilliant results where the posterior sclerotomy changed the vision from almost zero to $\frac{20}{20}$ in two weeks, and this good condition remained for two or three years, before the case passed out of my observation. It seems to me the most important thing in the study of glaucoma and the study of the effect of operations, is a careful record of the field of vision. Every one has had cases of chronic glaucoma where central vision was normal, as in some of Dr. Fiske's cases, and where the peripheral vision is much contracted. I have a most unfortunate case, in which the man's central vision was $\frac{20}{40}$ up to the day I did an iridectomy. He had absolute glaucoma in the left eye. In the right eye slight increase of tension, excavation of the optic disc and $\frac{20}{30}$ of vision with a marked contraction of the field. The field contracted more and more until it seemed to him as if he were looking through a gun barrel. Still he had $\frac{20}{40}$ and better of central vision. An iridectomy was done, and immediately after the excision of the iris the vitreous was forced into the wound and this was quickly followed by a profuse intra-ocular hæmorrhage.

DR. C. BARCK, St. Louis, Mo.—This subject is always an interesting one, especially as the opinions are still divergent as to the best method of treatment. Until lately many, especially American ophthalmologists, were opposed to operative interference in chronic glaucoma; but late years have furnished us statistics which enable us to judge better on the final results of operations. One of them is from Hirschberg's clinic in Berlin (*Centrbl. f. Augenhk.*), the other is by Haab, in Zürich (*Glaucoma and its Treatment*, 1902). Both authors took especial care to keep the cases under observation—which is easy in countries where the population does not often move from place to place—and only such cases were included in the statistics in which two or more years had elapsed since the operation. The statistics agree with each other to a remarkable extent. Haab's results were as follows:

Glaucoma simplex, 76 cases—resulted in blindness, 29 per cent.; fair result, 29 per cent., good result, 42 per cent. =71 per cent.

Glaucoma, inflammatory, chronic, 37 cases—resulted in blindness, 43 per cent.; fair result, 27 per cent.; good result, 30 per cent.=57 per cent.

On the other hand, out of the 15 eyes treated with drugs alone, the results were, blindness, 60 per cent.; fair result, 40 per cent.

Hirschberg's results were very similar.

In the light of these statistics, it seems to me that we cannot reject operative interference any longer in a disease with such a poor prognosis otherwise.

It seems to me that the different substitutes for the old-fashioned iridectomy, viz., anterior sclerotomy, incision of the iris angle, etc., have been gradually abandoned. My custom is, and I would advise, an iridectomy not only in acute, but also in simple and chronic glaucoma, as early as possible. This I follow up by the use of eserine or pilocarpine. Should the diminution of sight continue in spite of the first operation, I add a posterior sclerotomy.

DR. REYNOLDS.—I do not wish to discuss the theories and etiology of glaucoma. I concur with Dr. Wilder in the great importance of making frequent record of the field of vision. It is in the peripheral contraction of the field of vision that we find the first manifestation of increasing danger. I believe it is safer to do an iridectomy in all cases, because of the risk of an advancing peripheral contraction of the field and increasing amblyopia, which may be so nearly imperceptible as to deceive us.

I think it might be stated that one-half of the fatal results of iridectomies done in cases of high tension might be avoided by giving a dose of Rochelle salts, and for a few hours, after the first action of the salts, the salicylate of sodium in the definite dose of ten grains every half hour in a half pint of water, until pain disappears and tension is reduced.

At the time of operation a few drops of 1—1,000 of the chloride of adrenaline solution is important. This should be repeated at short intervals for the next ensuing twenty-four hours after operation, to restrain hæmorrhage.

DR. J. A. L. BRADFIELD, La Crosse, Wis.—I wish to report a case which illustrates the possibilities in what seems an almost hopeless case. In 1896 I was consulted by a stationary engineer, 35 years of age, for failing vision of right eye, which equalled $20/60$. Diagnosis: chronic glaucoma; iridectomy advised and rejected. Eserine was prescribed, but as I did not see him but once after, I do not know how long it was used.

July, 1901, he again consulted me. The right eye had been blind several months. Two weeks previous left eye became very red and painful. Patient vomited and had to be kept under the influence of morphine. As the vision became so poor he was unable to see even enough to recognize his own family, he again called on me, when I found the following condition: Vision of right eye—perception of light, tension plus 3; typical atrophic cupping disc. Left eye—severe ciliary injection; widely dilated pupil; cornea very cloudy; anterior chamber almost obliterated, and tension very high; pain, intense; vision, perception of moving objects.

Under holocaine anæsthesia made small incision with a very fine Graefe knife. The iris prolapsed with the completion of the incision and the wound gapped so as to greatly endanger the position of the lens.

Recovery uneventful. Four weeks after operation patient resumed his former work which he has followed ever since with correction of error of refraction. Vision equals $20/20$. Tension is perfectly normal and eyes comfortable.

DR. J. O. STILLSON, Indianapolis, Ind.—I rise to subscribe to what Dr. Barck has said as to the advisability of an early iridectomy. I do not feel that we understand the etiology of glaucoma. I usually find that in this early stage of glaucoma simplex there is a narrow anterior chamber. Whether it be the pressure of the proportionally large lens and small eyeball on the ciliary body, which causes the stoppage of circulation of the fluids from the posterior to the anterior portion of the eye, or not, we do have this condition here which evidently necessitates surgical interference. Even if the sight is good, I think we should urge an early iridectomy. I think that eyes are frequently lost in an effort to make an iridectomy in a narrow anterior chamber with a lance-shaped knife.

DR. HOTZ.—I think we will not find a satisfactory theory of glaucoma as long as we try to apply the same explanation to different conditions. Clinically, we have two different conditions—the typical glaucoma and the so-called glaucoma simplex. In the one we have periodical attacks or exacerbations and remissions. In the so-called simple glaucoma we have nothing of that sort. In the first class we have a shallow anterior chamber; in the second class we have a normal and sometimes even deeper than normal anterior chamber. In the first class we have tension increased; in the second class we often cannot find increased tension at all if we examine the eye every day. But we sometimes find a deep excavation of the optic nerve. This shows there must be some different pathological process underlying these cases. As long as we try to bring the two under one head we will not come to a satisfactory conclusion. The pathologists labor under difficulties, because they get the eyes in the last stage of the disease. They cannot examine the condition of the acute glaucoma. They see the eye afterwards; they see the result of secondary processes. That is the excuse the pathologist offers for not furnishing us better light on the subject.

I certainly cannot take any other ground than that Dr. Fiske has proposed, to perform an iridectomy as early as possible after the glaucoma has set in. I also endorse his position in regard to performing an iridectomy on the second eye, if the eye shows any premonitory symptoms. I would, however, not perform an iridectomy on the other eye if it shows a perfectly normal condition. It might not become glaucomatous for ten years or longer.

DR. SUKER.—In speaking of the pathology of glaucoma, I think it might be advisedly considered a uveitis of some kind. I agree with the doctor that we should do an iridectomy in both eyes, in one as a preventive when the other eye is attacked with glaucoma.

I would not use 2 per cent solution of eserine; even 1 per cent is irritating at times. Although it is used, I think it is not good practice.

I do not believe an iridectomy will do much good when you have a deep anterior chamber.

DR. ALT.—I wish to say to Dr. Suker that, pathologi-

cally, glaucoma is not found to be uveitis. From the examination of a very large number of glaucomatous eyes I am firm in the conviction that this is not the case, although a secondary glaucoma may ensue in cases of uveitis.

DR. FISKE (closing discussion).—My reason for writing the paper was to make a plea for the early iridectomy, and I was pleased to hear most of the members who spoke agree with me. In Zürich, Prof. Horner first advised me to do iridectomy for simple glaucoma.

I do not agree with Dr. Suker about the uveitis. With 2 per cent eserine I have never had irritation.

I have never seen a case of glaucoma where there was distinctly a deeper anterior chamber than in the ordinary eye where there were no adhesions between the iris and the lens. I do not think you have normal vision in those eyes where there have been attacks of glaucoma.

BOOK REVIEW.

ENTRE AVEUGLES (Among the Blind). By DR. EMILE JAVAL.
Paris. 1903. Masson et Cie. 120 Boulevard St. Germain.

The celebrated author who lost his own vision in consequence of glaucoma a few years ago is evidently not mentally broken by his dire misfortune. As his whole life was given up to helping unfortunates, he, having entered their ranks, immediately took up the task of improving the conditions of the blind and to give good advice from his own experience to those who must look forward to losing their eyesight. It is interesting and pathetic alike to note the manner in which Javal tries to render himself and his co-sufferers independent of the help of others, and that he succeeds in a very large measure he shows in this little brochure. When reading this little book we could not help sympathizing with our unfortunate confrère more than ever, but also congratulating him on being able to render his own condition so much better by his good and manly sense. The blind and the seeing can learn a great deal from him and his most excellent and interesting book.

ALT.

MEDICAL SOCIETIES.

SEVENTY-FIRST MEETING OF THE BRITISH MEDICAL ASSOCIATION.

SECTION OF OPHTHALMOLOGY.

After the President, Mr H. E. Juler, had made a few remarks in commencing the work of the Section, Mr. Stanford Morton opened the discussion on the Operative Treatment of Conical Cornea. He remarked that although he usually did the operation of excision of the apex, yet he held no brief for any one method. He urged the necessity of recording all cases, good and bad, before an accurate opinion could be come to as to the best method of operating. He gave details of thirty operations. Mr. Tatham Thompson described a method he had adopted of passing horse-hair sutures through the cornea. This he had given up, and used now only the cautery short of perforating, and latterly he had done an iridectomy previous to cauterizing, as it much lessened the chances of after-complications. Dr. Karl Grossmann had operated on about ten cases and described his methods. Mr. Richard Williams (Liverpool) found that glasses improved a vast number of cases and operation was seldom necessary. He preferred perforation with the cautery. Mr. Doyme never now did anything but cauterization without perforation, and thought the operation most satisfactory with one sitting. The President used several methods and had done about twenty-five cases, but the results were not so brilliant as those of Mr. Morton. He preferred the cautery himself with a small perforation, and thought we should be able to come to a conclusion as to when it should be necessary to operate. Mr. Morton, in reply, thought that it was very difficult to gauge the depth of a suture, and was very diffident in putting in stitches. He would prefer not to do an iridectomy in all cases. Sometimes it was useful. He would not operate if the vision could be brought up fairly high with glasses, and he thought that all operations had their own peculiar merits in certain cases. Major H. Smith read a paper on the Extraction of

Cataract in its Capsule. His results were drawn from about 8,000 operations, of which 2,000 were done with opening the capsule, and 6,000 by extraction with the capsule. He found that in about 4 per cent. of these cases the capsule was left, and it should then be caught with forceps if possible, or, if it were too far retracted, the contained lens matter should be pressed out. Out of 1,023 cases 6.6 per cent. had escape of vitreous. The visual results were far better when the capsule was removed. Iritis was seldom seen if the lens was removed in its capsule. Mr. Bishop Harman had done an extraction in which he accidentally removed the lens in the capsule; the case did quite well. Dr. Brailey had great difficulty in knowing how great pressure should be used in order to get the lens out. The President had seen the operation done, but nearly always with escape of the vitreous. Dr. Darier (Paris) read a paper on Subconjunctival Injection of Koch's Tuberculin from a Diagnostic and Therapeutic Point of View. The patient was a girl who had tuberculous interstitial keratitis. He also read a second paper on the Treatment of Serous Syphilitic Diseases of the Eye, in which he strongly advocated the use of subconjunctival injections and intravenous injections of cyanide of mercury. He thought the treatment should be pushed and persisted in. Mr. Sydney Stephenson strongly advocated the method advocated by Dr. Darier.

Second Day.

Mr. Nettleship opened a discussion on Ocular Changes in Relation to Renal Disease, and said that, although much was already known regarding the eye changes in renal disease, yet information was still needed on several points both from physicians and ophthalmologists. He discussed the question of retinitis occurring as the result of lardaceous disease, as well as from nephritis due to inflammation of the bladder, ureter, and pelvis of the kidney. With regard to pregnancy retinitis, his cases showed that the prognosis in this condition was better than in retinitis due to other diseases. With regard to cases other than pregnancy, there were twice as many males as females affected. With regard to the retinitis of glycosuria which occurred with some albuminuria, he thought that, although some of the changes might be due to

the latter, yet glycosuria had been shown to be the cause of it in cases when there was no renal disease. He said that among other points requiring elucidation were the influence of inherited syphilis and scarlet fever, and the nature of the ophthalmic appearance of the white opaque thickening of the coats of arteries and veins. Dr. George Carpenter mentioned three cases in children, and Mr. Henry Power recorded two cases. Mr. Hartridge thought that many cases were toxic. Mr. Silcock said he had never seen retinal changes in cases of well-marked surgical kidney without cardio-vascular changes due to interstitial nephritis, neither had he seen changes in cases of suppression of urine. Dr. Reeve (Toronto) urged the importance of the routine examination of the urine. Mr. Doyne and the President also made remarks. Dr. Karl Grossmann described a case of aniridia in which he observed the effects of eserine on the shape of the lens, and he found that both anterior and posterior surfaces bulged, and the equatorial diameter of the lens became less. Mr. Harman thought that it was unwise to draw general conclusions from a single case which was evidently very abnormal, and Mr. Silcock agreed. Mr. Nettleship asked as to how much accommodation the patient had. Mr. Grossmann replied about 2.5 D. Mr. W. T. Lister read a paper on Epithelial Tumors of the Conjunctiva. They were non-malignant, and showed simply heaped-up epithelium. He gave a lantern demonstration of the sections. Mr. Sydney Stephens read a paper on Interstitial Keratitis in Acquired Syphilis. He described a case and mentioned several cases already recorded. Figures showed that from 9 to 10 per cent. were due to acquired syphilis. Mr. Devereux Marshall mentioned a case that had come under his own observation in which the choroid was first affected and subsequently keratitis developed. Mr. Stephenson said that this combination had been seen in several of the cases. Mr. Doyne read a paper on the Treatment of Atrophia Retinae with Retinal Extract. He referred to the difficulty of getting the fresh retinae, and also to the fact that an extract had been prepared. In cases of retinitis pigmentosa the diet had to be continued or sight went back. He gave details of several cases; tobacco cases quickly improved, and he had had good results in a case of optic atrophy.

Mr. Sydney Stephenson mentioned three other cases, one of which was a case of tobacco amblyopia which was cured in spite of his continuing to smoke. Mr. Nettleship had seen some of Mr. Doyne's cases, and said he was not yet convinced as to the improvement in their vision. Dr. Edridge-Green said that some years ago he had tried to prepare an extract of visual purple. This had quite failed. Dr. Darier had previously tried extract of retina, choroid, and ciliary body. He injected this subconjunctivally; the patients improved, but it was very transitory. He got nearly as good results with sodium chloride injections. Dr. Edridge-Green moved his resolution on the tests for color blindness for the public services. Mr. Beaumont seconded this, and it was carried unanimously.

Third Day.

Mr. Hartridge opened a discussion on the Treatment of Convergent Squint. In order to undertake the treatment satisfactorily we must discover the various factors which helped to produce the disorder. There were three methods of treatment—(1) optical, (2) orthoptic, and (3) operative. The two former should be carried out for at least one year before an operation was done, and as the condition was one of abnormal innervations, so operations on the muscles were unscientific and deformity was nearly always produced. He proposed as points for discussion—(1) When was an operation necessary or justifiable? and (2) What operation gave the best results? Mr. Claud Worth read a paper on Methods of Preserving or Restoring the Vision of the Deviating Eye and Developing the Fusion Sense. He said that no child was ever too young to wear glasses, and that congenital amblyopia was exceedingly rare. Atropine should be used to the fixing eye only for several weeks or months, and thus making the deviating eye useful for near work. From investigations he had made on infants he had found the first certain evidence of binocular vision between four and five months of age. The fusion sense was fully developed at six years; attempts at fusion training after this age were mere waste of time. He described his methods of educating the deviating eye, and gave his results in a large number of his cases. Mr. Tatham Thompson (Cardiff) said that he thought glasses

should be worn as early as possible, but that one seldom saw the patient before 4 years. His tendency was to do less and less in the way of tenotomy. He never operated upon both eyes at the same time, and he would much prefer it to advancement in squints above 15 or 20 degrees. In advancements he split the tendon and took one-half above and one below the level of the cornea. Mr. Maddox said that he fully agreed with Mr. Hartridge and Mr. Worth, and thought the latter had done good service in insisting on the necessity of early training. After Mr. Harman had spoken, Dr. Darier said that both eyes should not be operated upon at the same time. He thought that advancement combined with tenotomy was the best operation. Dr. Reeve (Toronto) also was opposed to operations on both eyes together; he described several operations. Remarks were also made by Dr. Grainger and the President. Mr. Lister asked whether the operations done by Mr. Hartridge and Mr. Worth were done under an anæsthetic when the patient was under puberty. He thought the results of operations done under cocaine were excellent, but not so when an anæsthetic was used. Mr. Hartridge in reply said that anæsthetics were necessary in children. Mr. Worth said that in cases in which he had been able to train the fusion sense, he had no hesitation in resorting to operation at any age, because the trained fusion sense could be relied upon to do the fine adjustment; but in cases in which binocular vision was out of the question he never operated until he was able to do so under cocain. Mr. Tatham Thompson read a paper on the fixation of the eye during operations in intractable patients. This consisted of passing sutures on both sides of the conjunctiva near the cornea at the level of the center of the cornea. It caused far less gaping than the ordinary forceps. Mr. Bronner thought that two pair of forceps would do as well. Mr. Beaumont (Bath) described some double forceps he had used. Mr. H. Collen Ensor described an improved operation for ptosis. Major H. Herbert, I.M.S., read a preliminary note on the pathology and diagnosis of spring catarrh, and also read a further note on the superficial punctate keratitis of Bombay. Dr. Bronner described a modified Mules glass ball for use after removal of the eyeball. Mr. Bishop Harman read a

paper on the knee-jerk phenomenon in interstitial keratitis. Mr. Doyne said that in thirty-two cases of interstitial keratitis he had found the knee-jerk present in all. Mr. Beaumont tested fifteen cases, and in all the knee-jerk was present. Mr. Bishop Harman described an improved operation for congenital ptosis. He mentioned several objections in Mule's operations with wire, and he used a gold chain to take its place.

ABSTRACTS FROM MEDICAL LITERATURE.

BY W. A. SHOEMAKER, M.D.
ST. LOUIS, MO.

METASTATIC CARCINOMA OF THE CHOROID, WITH REPORT OF A CASE AND REVIEW OF THE LITERATURE.

E. L. Oatman (*American Journal of the Medical Sciences*, March) reports a case, discusses the general appearance of this condition and briefly reviews the thirty cases on record that may be considered genuine.

It usually occurs in early middle-life. The primary growths are usually in the breast (though other organs may be primarily involved), and as a result we find more females suffering from carcinoma of the choroid than males. The theory that the left eye is the most frequently invaded is not supported by his statistics. In one-third of the cases both eyes were involved. The deposit is always found posteriorly, near the point where a short ciliary artery enters the globe, and appears at the corresponding point in the other eye when it is attacked, indicating that the second eye is not invaded by way of the lymph channels of the optic nerve and chiasm. The typical shape is a flat discoid thickening with a central elevation. Vision rapidly fails, due to the early and extensive detachment of the retina. Sight is completely lost in from two to eight weeks. The tension is diminished or normal in over two-thirds of the cases and increased in about one-third.

The condition is hopeless; the average duration of life, after eye symptoms appear, is six and one-half months. He

does not advise operative interference unless very painful, as it may hasten the fatal result.

The following points are noted and will enable us to differentiate between carcinoma and sarcoma.

CARCINOMA OF THE CHOROID

Always secondary.

Has always occurred posteriorly, usually on the temporal side of the nerve.

A flat discoid tumor or thickening of the choroid which spreads laterally.

Early detachment of the retina.

Destroys vision in a few weeks.

Has not been described as being vascular.

May be very painful with T. N. or T—.

First symptom may be a rapid increase of hypermetropia without marked ophthalmoscopic changes.

T. may be diminished.

SARCOMA OF THE CHOROID

“Secondary sarcoma of the choroid is unknown.”

(*Fuchs.*)

May occur at any point.

A rounded protruberance growing out into the vitreous.

Late detachment when centrally located. (*Griffith.*)

May exist a long time with good vision.

May appear vascular.

Pain is due to +T.

Too circumscribed to produce hypermetropia.

If confined to the choroid T. is never diminished.

(*Marshall.*)

BOOK REVIEWS.

TWO RECENT BOOKS ON REFRACTION AND OCULAR MUSCLES.

1. THE REFRACTION OF THE EYE AND THE ANOMALIES OF THE OCULAR MUSCLES. By KENNETH CAMPBELL, M.B. Edin., etc. New York: Wm. Wood & Co. 1903. pp. 214. Price \$1.75.

2. THE ERRORS OF ACCOMMODATION AND REFRACTION OF THE EYE AND THEIR TREATMENT. A Hand-book for Students. By ERNEST CLARKE, F.R.C.S., Eng., etc. New York: Wm. Wood & Co. 1903. pp. 225. Price, \$1.75.

If the appearance of books on the subject is any indication, there is an increasing interest in questions of refraction and ocular muscles on the part of the student body in medicine at this time. The publication of two books of this character simultaneously, both of British parentage, must have been in reply to a demand for additional help felt by the student or teacher, or both, for some simpler or more complete elucidation of the laws governing the refraction and movements of the eye than had existed before. The multiplication of books on any subject is a proof that one satisfactory in all particulars has not been furnished. The importance of anomalies in refraction and ocular movements has become so pressing in practice—thanks largely to American workers in those branches—that the necessity is felt to be urgent for a complete knowledge on the part of the practitioner of all the refinements in diagnosis and treatment. To furnish this knowledge is the commendable ambition of these two small brochures. That they supply much that is desirable and necessary must be at once conceded. That they, either separately or combined, do not give all that is desirable or necessary is due to the fact that they have attempted the impossible, and thereby have fallen short of a complete realization of their aim.

This is of necessity. No book of 225 pages, 12 mo., can give a full exposition even of the principles of refraction and ocular movements. The great work of Donders and his followers cannot be boiled down and given in tabloid form. The result is that each new little compendium is written to supply some special deficiency the author felt to exist in all others and necessarily represents his own point of view. This is not to be undervalued, since every careful observer must have found something that deserves consideration at the hands of his fellow workers. So long as students are desirous to have some one else do most of the thinking for them and rest satisfied with just enough knowledge to "get through," quiz compends and *vade mecums* will abound. The most, or

least, that we can ask of them, then, is that they shall be accurate as far as they go and represent, approximately at least, the sum of our knowledge up to the time of publication. These two brochures have much to commend them. They are well printed, as most English books are, are abundantly illustrated, and are for the most part lucid in the treatment, however short, of the themes presented.

We hope we will not be deemed ungracious, however, if we point out some errors and points of difference in opinion and experience which might be naturally expected where our knowledge is yet far from complete and observation is still difficult.

Perhaps that which will strike the reader first as most curious and unaccountable in running over Campbell's book is the absence of any mention of the ophthalmometer. On the other hand, Clarke gives quite a considerable space to its application in practice and evidently regards it as most valuable in testing for astigmatism, and makes a statement in this connection which sounds strangely coming from the country where the shadow test has, probably, its greatest vogue. He says (p. 119): "Retinoscopy is a very valuable help in estimating astigmatism; it is accurate and simple, but not so delicate as the ophthalmometer." His faith in the ophthalmometer is seemingly based upon his belief that lenticular astigmatism is insignificant, since he states (p. 118): "Further, as lenticular astigmatism must necessarily be very small, it can only neutralize a low degree of astigmatism in the cornea." What lenticular astigmatism is present he considers due to partial contraction of the ciliary muscle, with its attendant consequences of asthenopia, headache, etc. He claims that $\frac{1}{8}$ D. of astigmatism can be revealed by the ophthalmometer (corneal of course), and places the normal lenticular astigmatism "against the rule" at 0.25 D. We have never, we believe, seen the normal lenticular astigmatism placed so low as that, and some have placed it as high as 0.75 D. In all but exceptional cases it certainly reaches 0.5 D. Then again he makes no mention of the lenticular astigmatism due to an oblique position of the lens. It is more than probable that all lenticular astigmatism of the normal kind is due to this, and there is certainly a large number

of cases of the abnormal variety that is above 0.5 D. which must be placed in the same category since it fails to disappear under persistent use of the cycloplegic.

In skiascopy Clarke uses the plane, while Campbell employs the concave mirror.

A very remarkable statement in regard to the difference in the practical use of crossed cylinders and the ordinary sphero-cylinder is made on page 129, when, in speaking of the advantages of the latter over the former, he says: "If by any chance the glasses (crossed cylinders) are worn askew, both axes will be wrong, whereas, in the proper method (sphero-cylinders) with *one* cylinder only one meridian will be affected." We are sorry Mr. Clarke does not explain by what law of physics the axis of the cylinder affecting one meridian in a sphero-cylinder can be displaced without affecting the axis of the meridian at right angles to it. We have known for a long time now, through the work of Prentice, Jackson and others that all sphero-cylinders are optically crossed cylinders with the axes at right angles to each other and *vice versa*; and if one axis is displaced the other must inevitably be so to exactly the same extent. The advantages of the sphero-cylinder are its greater ease of manufacture and greater cheapness. For certain purposes the crossed cylinder, however, has also its own advantage. The following statement, however, redeems any errors like the above which may have crept in through inattention: "Remember that our objective examination is our guide and servant; it must never be our 'master.' The subjective examination must always *have the last word*."

A new and unfamiliar use of "bifocal" as applied to lenses is given on pages 148-9, where a lens is described which has a power of -6 at the center and -2 at the circumference. In this country this term is used, universally, to designate lenses in which the upper portion is used for distant vision and the lower portion for reading.

The portions in both books on the ocular muscles are based largely upon the work of Maddox, not, however, without mention of American authorities. The work of Campbell is more complete in respect to muscles than that of Clarke. In crediting up the work on prismometry among

Americans Clarke has fallen into an error in apparently crediting to Dennett the discovery of the relation between the new method of designation by centrad or prism dioptries and the meter angle. While it is true that "the centrad has a relative value to the meter angle in that half the number of centimeters between the pupils indicates the number of centrad in the meter angle" (p. 211), it was Prentice who first established this law in his article on "A metric system for numbering and measuring prisms," published in *Knapp's Archives* in 1890. In the section given to the relation of the prism dioptry to the meter angle he says: "Read the patient's interpupillary distance in centimeters when half of it will indicate the prism dioptries required to substitute one meter angle for each eye." In the same paper he also announced the law, attributed by Clarke to Maddox, of the relation of the prism-dioptry to lens dioptry by which "any lens is capable of producing as many prism-dioptries as the lens possesses dioptries of refraction, provided it is decentered one centimeter." Clarke also gives the law of Holden for decentration with the degree as a unit, which differs but little from the prism-dioptry and centrad, and is much less simple. The practical value of the prism-dioptry is demonstrated by the fact, probably not generally known, that all the prisms manufactured in the United States since 1895 have been measured and numbered by the prism-dioptical system, and whether we recognized it or not, we are using prism-dioptries in our work every day, even though we may order our prisms in degrees or centrad.

On the whole, however, these little books, if carefully studied, will yield much value to the undergraduate and to the practitioner who feels that he must "know something of eye-work."

S. M. B.